

Smart conveying – Prevent downtime with PREMAS® 4.0 Predictive Maintenance Solution



See what you can't see, detect what you can't measure

Running machinery and production are top priorities in any plant. Regular maintenance activities and routines are therefore often a challenge: Machines cannot be maintained as required, inspections are postponed and the condition of components, their wear, or even damage, are not detected.

PREMAS® 4.0 breaks the Gordian knot between operation and maintenance

Mostly the maintenance is left to do walk-by inspections and to rely on continuous measurements and sensors, indicated in the central control room. However, many crucial observations cannot be made at a running machine, thus they remain under the water's surface. This is a risk for the availability of the machine and the production rate of the plant. Bucket elevators, pan conveyors, or other conveying machines are often named auxiliary equipment but are as crucial in the production process as the main machines (e.g. kiln, cooler, mill). They are often a bottleneck in the production line, as they are the only transport line in front or behind the main equipment.

Doing no maintenance nor inspection creates unnecessary risks and is a pain point in the operation. With PREMAs® 4.0 you can break this Gordian knot between operation and maintenance. It helps you see, what you can't see and detect, what you can't measure.

- ▶ Central control room operator, field inspector and maintenance team take care

Walk by inspection

Action on an observation as a result of a walk by inspection (e.g. sound of buckets touching the housing)

Alarm of a sensor in the central control room

The central control room operator calls for action triggered by an alarm of a sensor (e.g. drift switch)

- ▶ IoT, smart sensors and intelligent algorithm data observation take care

Unnoticed defects during operation

Certain measures or visual inspections require a machine stop and operation in maintenance mode (e.g. shore hardness of a bucket elevator's belt)

Hidden failures, dynamic failures

Failures can develop silently within a component and can not be detected without disassembly (e.g. clamping connection)

Say goodbye to unexpected downtimes, unforeseen failures and high OpEx / CapEx

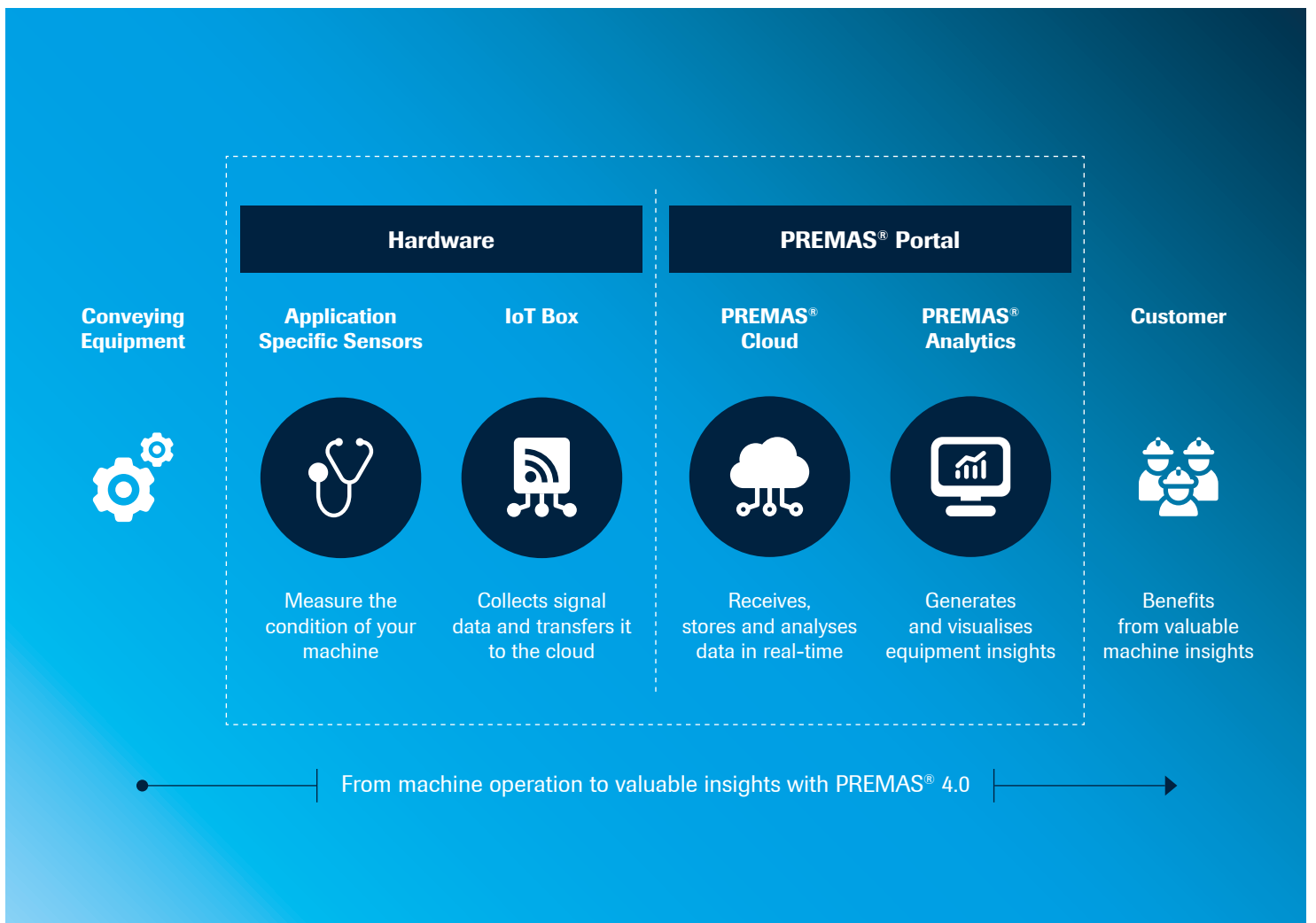
The choice of the maintenance strategy has a crucial impact on whether you achieve high machine reliability and maximum production – or not. Reactive maintenance leads to unplanned stops, high costs and reduced production. This can be avoided – with PREMAS® 4.0. Developed for AUMUND and non-AUMUND conveying machines, it supports you in planning regular maintenance activities, detecting machine weaknesses early and acting proactively before your operation is affected.



More insights for increased machine reliability

PREMAS® 4.0 feels the pulse of your machine, keeps an eye on it and informs you when your action is required. It keeps you informed about the condition of the machine in real-time, sends push notifications in case of anomaly detection, and provides a prediction of the estimated service life of critical machine components.

Thus, it enables you to plan your maintenance, act in time, and prevent possible problems before your operation is affected. However, it does not replace your experts. PREMAS® 4.0 is your best buddy enabling you to set priorities in maintenance, decide what to do next and act!



Made visible at the touch of a button – anytime and anywhere

Our Predictive Maintenance Solution is specifically designed for conveyors in the heavy industry. The latest sensor technologies are combined with data collection and analysis to provide online information about the condition of your conveyors – wherever you are, whenever you want to make the invisible visible.

Each machine receives a hardware package. Existing field sensors and some existing signals from the plant control system are connected to the IoT Box. The collected data on, for example, the motor current, level switch, speed switch or drift warning, reaches the PREMAs Cloud via mobile connectivity. There, the data is analysed based on the latest predictive analytics technologies. The PREMAs Portal thus visualises and provides all relevant data for complete online condition monitoring, which is securely accessible to authorised users 24/7 and via any mobile or desktop device.

PREMAS® 4.0 Hardware – robust, IT/OT independent, and easy to install



The PREMAs® 4.0 hardware fulfils industrial requirements and is currently CE, UL and EAC certified. Specified on the type of conveying machine, you get your all-in-one kit such as:

- ✓ IoT Box
- ✓ Antenna Kit
- ✓ Temperature Kit
- ✓ Elongation Kit
- ✓ further specific kits depending on your conveying machines

PREMAS® Portal – always one step ahead, 24/7 and on any device

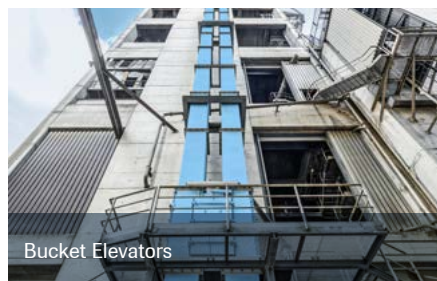


PREMAS® Portal is your secure gateway to all your machine data: It visualises the status of your machine in real-time and presents the results and calculations based on the collected data. It includes:

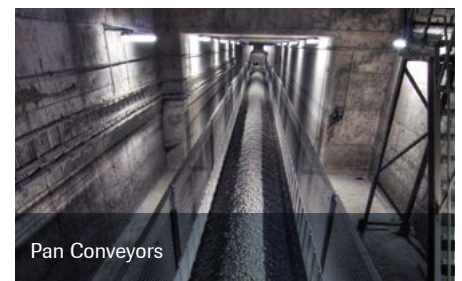
- ✓ Machine Overview: all machines with PREMAs® 4.0 at a glance
- ✓ Machine Dashboard: detailed overview of each machine and its KPIs
- ✓ Machine Performance: KPIs and detailed trend curves
- ✓ Anomaly detection: Push notifications in case of anomaly detection via E-Mail or SMS
- ✓ Predictive Analytics: Lifetime prediction of key machine components
- ✓ Traffic light principle: recognise immediately where you need to act next
- ✓ Interface to central control room: possible on request

Made for AUMUND and non-AUMUND conveying machines

PREMAS® 4.0 is worldwide available for Bucket Elevators, Pan Conveyors, CENTREX®, SAMSON Eco Hopper and SCHADE Reclaimers of all types of brands.



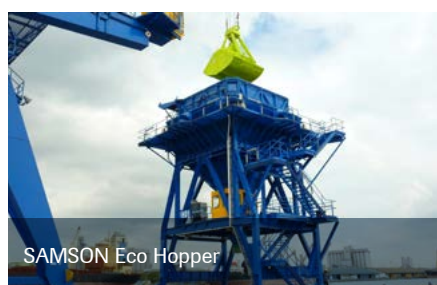
Bucket Elevators



Pan Conveyors



CENTREX®



SAMSON Eco Hopper



SCHADE Reclaimers

Let's bring your maintenance and production to the next level

Plan

Optimise your maintenance & inspections planning based on **machine insights and lifetime prediction**. Plan your spare parts on time and reduce useless storage at site.

Know

Know the truth: Learn more about machines and components behaviour to make better decisions based on **insights & data history**.

Detect

Detect machine weaknesses without physical inspection 24/7 online with **PREMAS® Portal**. Share your data with your OEM & get improved remote support.

Recognise

Recognise maintenance needs early with anomaly **push notifications**.

Prevent

Act on time to **prevent critical failures** and their massive consequences. Secure a smooth, reliable operation anytime.

Improve

Save OpEx / CapEx, optimise your resources, increase machine reliability at a high level of production and avoid unnecessary stoppages.





“We are convinced that predictive maintenance has a future. With PREMAS® 4.0, we can plan spare parts and maintenance better, which has a positive effect on resources and costs. It enables us to immediately recognise where action is needed, regardless of time and place.”

Customer Statement of Ramona Keller
Maintenance Manager
Jura-Cement-Fabriken AG

Interested? Contact us and request a free demo-session on PREMAS® 4.0.

AUMUND France S.A.R.L.

43, rue de Trévisse
75009 Paris
France
PREMAS@aumund.fr
+33 1 42 46 72 72

**AUMUND Machinery Technology
(Beijing) Co. Ltd**

Room 2105-2108, East Ocean Center
No. 24A, Jian Guo Men Wai Street
Chaoyang District
Beijing 100004
P.R., China
PREMAS-China@aumund.com
+86 137 0112 7373

AUMUND Corporation

NW, 1701 Barrett Lakes Blvd #425
30144 Kennesaw, GA
USA
PREMAS@aumundusa.com
+1 770 590 3820

AUMUND Engineering Pvt. Ltd

Lakshmi Neela Rite Choice Chambers
9(Old No.5), Bazulla Road, T.Nagar
Chennai 600 017
India
PREMAS-India@aumund.in
+91 9840228431

AUMUND Asia (H.K.) Limited

Unit 3B & 5, 30/F
148 Electric Road
North Point, Hong Kong
P.R. China
PREMAS@aumund-asia.com
+852 3695 4322

AUMUND Fördertechnik GmbH

Saalhoffer Str. 17
47495 Rheinberg
Germany
PREMAS@aumund.de
+49 2843 72777

AUMUND Fördertechnik GmbH

Middle East Branch
2EM119, Dubai Airport Freezone
P.O. Box 35291, DUBAI
UAE
PREMAS-MEA@aumund.com
+971 50 160 1761 / +971 52 846 50 83

AUMUND Fördertechnik GmbH

Malaya Morskaya str., h. 18/1, office 312
190000, Saint-Petersburg
Russia
PREMAS@aumund.ru
+7 812 335 68 90

AUMUND Ltda

Av. Eng. Luis Carlos Berrini, 716
4. andar - Conj. 41
04571-000 São Paulo
SP - Brazil
PREMAS@aumund.com.br
+55 11994113489

SAMSON Materials Handling Ltd

Gemini House
1 Bartholomew's Walk
Cambridgeshire Business Park
CB7 4EA Ely, Cambridgeshire
United Kingdom
PREMAS@samson-mh.com
+44 1353 665001 (choose option 2)

SCHADE Lagertechnik GmbH

Bruchstraße 1
45883 Gelsenkirchen
Germany
premas@schade-lagertechnik.de
+49 209 50316 240



Visit our website and find out more information
about PREMAS® 4.0:

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